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NTE75491B
Integrated Circuit
4–Segment MOS–to–LED Anode Driver

Description:

The NTE75491B is a monolithic 4–segment MOS–to–LED anode driver in a 14–Lead plastic DIP type package designed to be used together with MOS integrated circuits and common–cathode LEDs in serially addressed multi–digit displays. This time–multiplexed system, which uses a segment–address–and–digital–scan method of LED drive, minimizes the number of drivers required.

Features:

- 50mA Source or Sink Capability
- Rated for 10V Operation
- Low Input Current for MOS Compatibility
- Low Standby Power
- High–Gain Darlington Circuits

Absolute Maximum Ratings:

Input Voltage Range (Note 1, Note 2) . . . . . –5V to V_{SS}
Collector (Output) Voltage, V_C 10V
Collector (Output)–to–Input Voltage 10V
Emitter–to–Ground Voltage ($V_I \geq 5V$) 10V
Emitter–to–Input Voltage 5V
Voltage at V_{SS} Terminal with Respect to Any Other Device Terminal 10V
Collector (Output) Current, I_C
    Each Collector (Output) 50mA
    All Collectors (Outputs) 200mA
Continuous Total Dissipation ($T_A \leq +25°C$) 875mW
    Derate Above +25°C . . . . . 7mW/°C
Operating Temperature Range, T_A . . . . . 0° to +70°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C
Lead Temperature (During Soldering, 1/16” from case, 10sec max), T_L . . . . . +260°C

Note 1. All voltage values are with respect to network ground terminal.
Note 2. The input is the only device terminal that may be negative with respect to ground.

Electrical Characteristics: (V_{SS} = 10V, T_A = 0° to +70°C, Note 3 unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
On−State Collector−Emitter Voltage	$V_{CE(on)}$	Input = 6.5V through 1kΩ, V_E = 5V, I_C = 50mA	T_A = +25°C	–	0.9	1.2	V
				–	–	1.8	V
Off−State Collector Current	$I_{C(off)}$	V_C = V_{SS}, V_E = 0	I_I = 40μA	–	–	100	μA
			V_I = 0.7V	–	–	100	μA
Input Current	I_I	V_I = V_{SS}, V_E = 0, I_C = 20mA		–	2.2	3.3	mA
Emitter Reverse Current	V_{OH}	V_I = 0, V_E = 5V, I_C = 0		–	–	100	μA
Current Into V_{SS} Terminal	I_{SS}			–	–	1	mA

Note 3. All typical values are at T_A = +25°C.

Switching Characteristics: (V_{SS} = 7.5V, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Propagation Delay Time	t_{PLH}	V_{IH} = 4.5V, V_E = 0, R_L = 200Ω, C_L = 15pF	–	100	–	ns
	t_{PHL}		–	20	–	ns

Pin Connection Diagram